

OM protein - protein search, using sw model

Run on: May 30, 2008, 10:13:07 ; Search time 99 Seconds
(without alignments)
6154.036 Million cell updates/sec

Title: US-10-574-297-34
Perfect score: 5178
Sequence: 1 MYLDRFRQCPSSLQIPRSAW.....AAGDRINIPWSFHAGYRYSF 1010

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 3405708 seqs, 601879884 residues

Total number of hits satisfying chosen parameters: 3405708

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_200711:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000:*
4: geneseqp2001:*

4: geneseqp2001:*
5: geneseqp2002:*
6: geneseqp2003a:*
7: geneseqp2003b:*
8: geneseqp2004a:*
9: geneseqp2004b:*
10: geneseqp2005:*
11: geneseqp2006:*
12: geneseqp2007:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query			DB	ID	Description
	Score	Match	Length			

1	5178	100.0	1010	10	ADZ46880	Adz46880 BASB232 p
2	5109	98.7	998	6	ABU22871	Abu22871 Protein e
3	1462	28.2	271	2	AAW27704	Aaw27704 B. pertus
4	1309	25.3	910	5	AAE16184	Aae16184 Bordetell
5	1307	25.2	910	5	AAE17146	Aae17146 Bordetell
6	1307	25.2	910	10	ADZ46876	Adz46876 BASB232 p
7	1304.5	25.2	915	10	ADZ39252	Adz39252 Pertussis
8	1299.5	25.1	911	2	AAR14320	Aar14320 Pertactin
9	1293.5	25.0	911	5	AAE16183	Aae16183 Bordetell
10	1280	24.7	922	2	AAR25578	Aar25578 Bordetell
11	1280	24.7	922	5	AAE16185	Aae16185 Bordetell
12	1274.5	24.6	911	2	AAR26503	Aar26503 prn prote
13	1238.5	23.9	768	6	ABU23088	Abu23088 Protein e
14	1192.5	23.0	759	10	ADZ46890	Adz46890 BASB232 p
15	1122.5	21.7	515	10	ADZ46880	Adz46880 BASB232 p

15	1122.5	21.7	515	10	ADZ46892	Adz46892 BASB232 p
16	1091.5	21.1	922	2	AAR14321	Aar14321 Pertactin
17	1023	19.8	915	10	ADZ46878	Adz46878 BASB232 p
18	804	15.5	274	2	AAW27708	Aaw27708 B. pertus
19	804	15.5	274	2	AAW27709	Aaw27709 B. parape
20	780	15.1	773	6	ABU41966	Abu41966 Protein e
21	778	15.0	397	10	ADZ46894	Adz46894 BASB232 p
22	761.5	14.7	647	10	ADZ46882	Adz46882 BASB232 p
23	756.5	14.6	712	6	ABU39697	Abu39697 Protein e
24	707.5	13.7	482	10	ADZ46888	Adz46888 BASB232 p
25	664.5	12.8	1569	4	AAG98842	Aag98842 E. coli g
26	664.5	12.8	1569	6	ABU15202	Abu15202 Protein e
27	658.5	12.7	1571	10	AEB91292	Aeb91292 Microbial
28	658.5	12.7	1571	10	AED82060	Aed82060 Hyperimmu
29	658	12.7	1567	10	AED82494	Aed82494 Hyperimmu
30	547	10.6	1606	4	ABG30355	Abg30355 Novel hum
31	543.5	10.5	836	10	AEB91317	Aeb91317 Microbial
32	543.5	10.5	836	10	AED82041	Aed82041 Hyperimmu
33	543.5	10.5	863	10	AED82480	Aed82480 Hyperimmu
34	542.5	10.5	836	6	ABU28689	Abu28689 Protein e
35	539.5	10.4	759	6	ABU49929	Abu49929 Protein e
36	524.5	10.1	955	6	ABU15423	Abu15423 Protein e
37	523.5	10.1	638	6	ABU50354	Abu50354 Protein e
38	522.5	10.1	955	10	AEB91469	Aeb91469 Microbial
39	514.5	9.9	1430	6	ABU50527	Abu50527 Protein e
40	464.5	9.0	599	8	ADR72567	Adr72567 Amino aci
41	464.5	9.0	599	11	AEH12532	Aeh12532 Bordetell
42	464.5	9.0	599	11	AEK91792	Aek91792 Bordetell
43	464.5	9.0	599	11	AEL95088	Ael95088 Bordetell
44	463	8.9	602	8	ADR72565	Adr72565 Amino aci
45	463	8.9	602	11	AEH12530	Aeh12530 Bordetell

ALIGNMENTS

```

RESULT 1
ADZ46880
ID   ADZ46880 standard; protein; 1010 AA.
XX
AC   ADZ46880;
XX
DT   15-JUN-2007 (revised)
DT   30-JUN-2005 (first entry)
XX
DE   BASB232 polypeptide encoded by Orf17.
XX
KW   BASB232; vaccine; bacterial infection; bordetella pertussis infection;
KW   antibacterial; BOND_PC; serum resistance protein;
KW   serum resistance protein [Bordetella pertussis Tohama I]; brkA; BrkA;
KW   GO7155.
XX
OS   Bordetella pertussis.
XX
PN   WO2005032584-A2.
XX
PD   14-APR-2005.
XX
PF   01-OCT-2004; 2004WO-EP011082.
XX
PR   02-OCT-2003; 2003GB-00023112.
PR   02-OCT-2003; 2003GB-00023113.
XX
PA   (GLAX ) GLAXOSMITHKLINE BIOLOGICALS SA.
XX
PI   Castado C, Denoel P, Godfroid F, Poolman J;
vv

```

XX WPI; 2005-296056/30.
DR N-PSDB; ADZ46879.
DR PC:NCBI; gi562026.
XX
PT Immunogenic composition, comprises polypeptide of Bordetella pertussis or
PT mixture of different B.pertussis, antigens, useful in Bordetella disease
PT treatments.
XX
PS Claim 3; SEQ ID NO 34; 172pp; English.
XX
CC The invention relates to BASB232 polypeptides (SEQ Group 2), and the
CC polynucleotide sequences (SEQ Group 1) encoding them. The invention also
CC relates to an immunogenic composition, comprising a B. pertussis BASB232
CC polypeptide or a mixture of 2-9 or 10 different B. pertussis antigens,
CC chosen from Bordetella autotransporter protein, Bordetella iron
CC acquisition protein, Bordetella lipoprotein, Bordetella adhesin and
CC Bordetella toxin/invasin, and an excipient. Also described is a vaccine
CC comprising the above immunogenic composition. The immunogenic composition
CC is useful in the preparation of a medicament for use in the treatment or
CC prevention of Bordetella disease such as whooping cough. The immunogenic
CC composition and vaccine are useful for treating or preventing Bordetella
CC infections such as B. pertussis, B. parapertussis or B. bronchiseptica
CC infections, by administering the vaccine to a host. This sequence
CC represents a BASB232 polypeptide of the invention.
CC
CC Revised record issued on 15-JUN-2007 : Enhanced with precomputed
CC information from BOND.
XX
SQ Sequence 1010 AA;

Query Match 100.0%; Score 5178; DB 10; Length 1010;
Best Local Similarity 100.0%; Pred. No. 2.6e-299;
Matches 1010. Conserved sites 0. Mismatches 0. Gaps 0.

Matches	1010;	Conservative	0;	Mismatches	0;	Indels	0;	Gaps	0;
QY	1	MYLDRFRQCPSSLQIPRSAWRLHALAAALALAGMARLAPAAAQAPQPPVAGAPHAQDAGQ						60	
Db	1	MYLDRFRQCPSSLQIPRSAWRLHALAAALALAGMARLAPAAAQAPQPPVAGAPHAQDAGQ						60	
QY	61	EGEFDHRDNTLIAVFDDGVGINLDDDDPDELGETAPPTLKDIHISVEHKNPMSKPAIGVRV						120	
Db	61	EGEFDHRDNTLIAVFDDGVGINLDDDDPDELGETAPPTLKDIHISVEHKNPMSKPAIGVRV						120	
QY	121	SGAGRALTLAGSTIDATEGGIPAVVRRGGTLELDGVTVAGGEGMEPMTVSDAGSRLSVRG						180	
Db	121	SGAGRALTLAGSTIDATEGGIPAVVRRGGTLELDGVTVAGGEGMEPMTVSDAGSRLSVRG						180	
QY	181	GVLGGEAPGVGLVRAAQGGQASIIDATLQSIILGPALIADGGSISVAGGSIDMDMGPFFP						240	
Db	181	GVLGGEAPGVGLVRAAQGGQASIIDATLQSIILGPALIADGGSISVAGGSIDMDMGPFFP						240	
QY	241	PPPLPGAPLAAHPPLDRVAAVHAGQDGKVTLREVALRAHGPQATGVYAYMPGSEITLQG						300	
Db	241	PPPLPGAPLAAHPPLDRVAAVHAGQDGKVTLREVALRAHGPQATGVYAYMPGSEITLQG						300	
QY	301	GTVSVQDDGAGVVAGAGLLDALPPGGTVRLDGTTVSTDGANTDAVLVRGDAARAEVVNT						360	
Db	301	GTVSVQDDGAGVVAGAGLLDALPPGGTVRLDGTTVSTDGANTDAVLVRGDAARAEVVNT						360	
QY	361	VLRTAKSLAAGVSAQHGGRVTLRQTRITETAGAGAEGISVLGFEPQSGSGPASVDMQGGSI						420	
Db	361	VLRTAKSLAAGVSAQHGGRVTLRQTRITETAGAGAEGISVLGFEPQSGSGPASVDMQGGSI						420	
QY	421	TTTGNRAAGIALTHGSARLEGVAVRAEGSGSSAAQLANGTLVVSAGSLASAQSGAISVTD						480	
Db	421	TTTGNRAAGIALTHGSARLEGVAVRAEGSGSSAAQLANGTLVVSAGSLASAQSGAISVTD						480	

Qy	481	TPKLMPGALASSTVSVRLTDGATAQGGNGVFLQQHSTIPVAVALESGALARGDIVADGN	540
Db	481	TPKLMPGALASSTVSVRLTDGATAQGGNGVFLQQHSTIPVAVALESGALARGDIVADGN	540
Qy	541	KPLDAGISLSVASGAAWHGATQVLQSATLGKGGTWVWNADSRVQDMSMRGGRVEFQAPAP	600
Db	541	KPLDAGISLSVASGAAWHGATQVLQSATLGKGGTWVWNADSRVQDMSMRGGRVEFQAPAP	600
Qy	601	EASYKTLTLQTLDDGNGVFVLNTNVAAAGQNDQLRVTGRADGQHRVLVRNAGGEADSRGARL	660
Db	601	EASYKTLTLQTLDDGNGVFVLNTNVAAAGQNDQLRVTGRADGQHRVLVRNAGGEADSRGARL	660
Qy	661	GLVHTQQGQGNATFRLANVGKAVDLGTWRYSLAEDPKTHVWSLQRAQALSGAANAAVNAA	720
Db	661	GLVHTQQGQGNATFRLANVGKAVDLGTWRYSLAEDPKTHVWSLQRAQALSGAANAAVNAA	720
Qy	721	DLSSIALAESNALDKRLGELRLRADAGGPWARTFSERQQISNRHARAYDQTVSGLEIGLD	780
Db	721	DLSSIALAESNALDKRLGELRLRADAGGPWARTFSERQQISNRHARAYDQTVSGLEIGLD	780
Qy	781	RGWSASGGRWYAGLLGYTYADRTYPGDGGKVKGLHVGGYAAVVDGGYYLDTVLRRLGR	840
Db	781	RGWSASGGRWYAGLLGYTYADRTYPGDGGKVKGLHVGGYAAVVDGGYYLDTVLRRLGR	840
Qy	841	YDQQYNIAGTDGGRVTADYRTSGAAWSLEGGRRFELPNDWFAEPQAEVMLWRTSGKRYRA	900
Db	841	YDQQYNIAGTDGGRVTADYRTSGAAWSLEGGRRFELPNDWFAEPQAEVMLWRTSGKRYRA	900
Qy	901	SNGLRVKVDANTATLGRGLRFGRRRIALAGNIVQPYARLGWTQEFKSTGDVRTNGIGHA	960
Db	901	SNGLRVKVDANTATLGRGLRFGRRRIALAGNIVQPYARLGWTQEFKSTGDVRTNGIGHA	960
Qy	961	QAGGNGRRTGAGGDAATGGGNTVAQGVVAAGGGTATTDGCFHACGVVGE	1010

QY	961	GAGRHGRVELGAGVDAALGKGHNLYASYEYAAGDRINIPWSFHAGYRYSF	1010
D6	961	GAGRHGRVELGAGVDAALGKGHNLYASYEYAAGDRINIPWSFHAGYRYSF	1010

RESULT 2	
ABU22871	
ID	ABU22871 standard; protein; 998 AA.
XX	
AC	ABU22871;
XX	
DT	19-JUN-2003 (first entry)
XX	
DE	Protein encoded by Prokaryotic essential gene #8398.
XX	
KW	Antisense; prokaryotic essential gene; cell proliferation; drug design.
XX	
OS	Bordetella pertussis.
XX	
PN	WO200277183-A2.
XX	
PD	03-OCT-2002.
XX	
PF	21-MAR-2002; 2002WO-US009107.
XX	
PR	21-MAR-2001; 2001US-00815242.
PR	06-SEP-2001; 2001US-00948993.
PR	25-OCT-2001; 2001US-0342923P.
PR	08-FEB-2002; 2002US-00072851.
PR	06-MAR-2002; 2002US-0362699P.
XX	
PA	(ELIT-) ELITRA PHARM INC.

[illegible]

PI Wang L, Zamudio C, Malone C, Haselbeck R, Ohlsen KL, Zyskind JW;
 PI Wall D, Trawick JD, Carr GJ, Yamamoto R, Forsyth RA, Xu HH;
 XX
 DR WPI; 2003-029926/02.
 DR N-PSDB; ACA26741.
 XX
 PT New antisense nucleic acids, useful for identifying proteins or screening
 PT for homologous nucleic acids required for cellular proliferation to
 PT isolate candidate molecules for rational drug discovery programs.
 XX
 PS Claim 25; SEQ ID NO 50795; 1766pp; English.
 XX
 CC The invention relates to an isolated nucleic acid comprising any one of
 CC the 6213 antisense sequences given in the specification where expression
 CC of the nucleic acid inhibits proliferation of a cell. Also included are:
 CC (1) a vector comprising a promoter operably linked to the nucleic acid
 CC encoding a polypeptide whose expression is inhibited by the antisense
 CC nucleic acid; (2) a host cell containing the vector; (3) an isolated
 CC polypeptide or its fragment whose expression is inhibited by the
 CC antisense nucleic acid; (4) an antibody capable of specifically binding
 CC the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular
 CC proliferation or the activity of a gene in an operon required for
 CC proliferation; (7) identifying a compound that influences the activity of
 CC the gene product or that has an activity against a biological pathway
 CC required for proliferation, or that inhibits cellular proliferation; (8)
 CC identifying a gene required for cellular proliferation or the biological
 CC pathway in which a proliferation-required gene or its gene product lies
 CC or a gene on which the test compound that inhibits proliferation of an
 CC organism acts; (9) manufacturing an antibiotic; (10) profiling a
 CC compound's activity; (11) a culture comprising strains in which the gene
 CC product is overexpressed or underexpressed; (12) determining the extent
 CC to which each of the strains is present in a culture or collection of
 CC strains; or (13) identifying the target of a compound that inhibits the
 CC proliferation of an organism. The antisense nucleic acids are useful for

CC proliferation of an organism. The antisense nucleic acids are useful for
 CC identifying proteins or screening for homologous nucleic acids required
 CC for cellular proliferation to isolate candidate molecules for rational
 CC drug discovery programs, or for screening homologous nucleic acids
 CC required for proliferation in cells other than *S. aureus*, *S. typhimurium*,
 CC *K. pneumoniae* or *P. aeruginosa*. The present sequence is encoded by one of
 CC the target prokaryotic essential genes. Note: The sequence data for this
 CC patent did not form part of the printed specification, but was obtained
 CC in electronic format directly from WIPO at
 CC ftp.wipo.int/pub/published_pct_sequences
 XX

SQ Sequence 998 AA;

Query Match 98.7%; Score 5109; DB 6; Length 998;
 Best Local Similarity 99.9%; Pred. No. 3.3e-295;
 Matches 997; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY	13	LQIPSAWRLHALAAALALAGMARLAPAAAQAPQPPVAGAPHAQDAGQEGFDHRDNTLI	72
		:	
Db	1	MQIPSAWRLHALAAALALAGMARLAPAAAQAPQPPVAGAPHAQDAGQEGFDHRDNTLI	60
QY	73	AVFDDGVGINLDDDPDELGETAPPTLKDIHISVEHKNPMSKPAIGVRVSGAGRALTLAGS	132
Db	61	AVFDDGVGINLDDDPDELGETAPPTLKDIHISVEHKNPMSKPAIGVRVSGAGRALTLAGS	120
QY	133	TIDATEGGIPAVVRRGGTLELDGVTVAGGEGMEPMTVSDAGSRLSVRGGVLGGEAPGVGL	192
Db	121	TIDATEGGIPAVVRRGGTLELDGVTVAGGEGMEPMTVSDAGSRLSVRGGVLGGEAPGVGL	180
QY	193	VRAAQGGQASIIDATLQSIILGPALADGGSISVAGGSIDMDMGPFPPPPPLPGAPLAA	252
Db	181	VRAAQGGQASIIDATLQSIILGPALADGGSISVAGGSIDMDMGPFPPPPPLPGAPLAA	240
QY	253		312

Qy	253	HPPLDRVAAVHAGQDGKVTLLREVALRAHGPQATGVYAYMPGSEITLQGGTVSVQGDDGAG	312
Db	241	HPPLDRVAAVHAGQDGKVTLLREVALRAHGPQATGVYAYMPGSEITLQGGTVSVQGDDGAG	300
Qy	313	VVAGAGLLDALPPGGTVRLDGTTVSTDGANTDAVLVRGDAARAEVVNTVLRATAKSLAAGV	372
Db	301	VVAGAGLLDALPPGGTVRLDGTTVSTDGANTDAVLVRGDAARAEVVNTVLRATAKSLAAGV	360
Qy	373	SAQHGGRVTLRQTRJETAGAGAEGISVLGFEPQSGSGPASVDMQGGSIITTTGNRAAGIAL	432
Db	361	SAQHGGRVTLRQTRJETAGAGAEGISVLGFEPQSGSGPASVDMQGGSIITTTGNRAAGIAL	420
Qy	433	THGSARLEGVAVRAEGSGSSAAQLANGTLVVSAGSLASAQSGAISVTDTPCLKMPGALAS	492
Db	421	THGSARLEGVAVRAEGSGSSAAQLANGTLVVSAGSLASAQSGAISVTDTPCLKMPGALAS	480
Qy	493	STVSVRLTDGATAQGGNGVFLOQHSTIPVAVALESGALARGDIVADGNKPLDAGISLSVA	552
Db	481	STVSVRLTDGATAQGGNGVFLOQHSTIPVAVALESGALARGDIVADGNKPLDAGISLSVA	540
Qy	553	SGAAWHGATQVLQSATLGKGGTWVNVNADSRVQDMSMRGGRVEFQAPAPEASYKTLTLQTL	612
Db	541	SGAAWHGATQVLQSATLGKGGTWVNVNADSRVQDMSMRGGRVEFQAPAPEASYKTLTLQTL	600
Qy	613	DGNGVFVLTNTNVAAGQNDQLRVTGRADGQHRVLVRNAGGEADSRGARLGLVHTQGQGNAT	672
Db	601	DGNGVFVLTNTNVAAGQNDQLRVTGRADGQHRVLVRNAGGEADSRGARLGLVHTQGQGNAT	660
Qy	673	FRLANVGKAVDLGTWRYSLAEDPKTHVWSLQRAQALSGAANAAVNAADLSSIALAESNA	732
Db	661	FRLANVGKAVDLGTWRYSLAEDPKTHVWSLQRAQALSGAANAAVNAADLSSIALAESNA	720
Qy	733	LDKRLGELRLRADAGGPWARTFSERQQISNRHARAYDQTVSGLEIGLDRGWSASGGRWYA	792
		

Db		721	LDKRLGELRLRADAGGPWARTFSERQQISNRHARAYDQTVSGLEIGLDRGWSASGGRWYA	780
QY		793	GGLLGYYTYADRTYPGDGGGKVKGLHVGGYAAVVDGGYYLDTVLRRLGRYDQQYNIAGTDG	852
Db		781	GGLLGYYTYADRTYPGDGGGKVKGLHVGGYAAVVDGGYYLDTVLRRLGRYDQQYNIAGTDG	840
QY		853	GRVTADYRTSGAAWSLEGGRRFELPNDWFAEPQAEVMLWRTSGKRYRASNGLRVKVDANT	912
Db		841	GRVTADYRTSGAAWSLEGGRRFELPNDWFAEPQAEVMLWRTSGKRYRASNGLRVKVDANT	900
QY		913	ATLGLRLGRLFRGRRIALAGNIVQPYARLGTQEFKSTGDTVRTNGIGHAGAGRHGRVELGA	972
Db		901	ATLGLRLGRLFRGRRIALAGNIVQPYARLGTQEFKSTGDTVRTNGIGHAGAGRHGRVELGA	960
QY		973	GVDAALGKGHNLYASYEYAAAGDRINIPWSFHAGYRYSF	1010
Db		961	GVDAALGKGHNLYASYEYAAAGDRINIPWSFHAGYRYSF	998

RESULT 3

AAW27704

ID AAW27704 standard; protein; 271 AA.

XX

AC AAW27704;

XX

DT 08-MAY-1998 (first entry)

XX

DE B. pertussis BrkA protein autotransporter membrane integration region.

XX

KW BrkA; autotransporter; Gram-negative bacteria; diagnostic; therapy;
 KW surface presented polypeptide.

XX

CG non-detailed description

OS Bordetella pertussis.
XX
PN WO9735022-A1.
XX
PD 25-SEP-1997.
XX
PF 15-MAR-1996; 96WO-EP001130.
XX
PR 15-MAR-1996; 96WO-EP001130.
XX
PA (PLAC) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN.
XX
PI Maurer J, Jose J, Meyer TF;
XX
DR WPI; 1997-480227/44.
DR N-PSDB; AAT88141.
XX
PT Presentation of peptide(s) on surface of Gram-negative bacteria - via
PT transformation with vector encoding signal peptide, presented peptide and
PT transporter domain of auto-transporter, producing peptide libraries for
PT epitope mapping.
XX
PS Claim 8; Fig 8; 84pp; German.
XX
CC This sequence represents the Bordetella pertussis BrkA autotransporter
CC membrane integration region. This region is involved in a novel method
CC which allows the presentation of stable fusion polypeptides on the
CC surface of Gram-negative bacteria which can be released into the
CC surrounding media. The method can be used to produce a variegated
CC population of surface-presented polypeptides, so that bacteria expressing
CC polypeptides with particular properties can be identified and
CC simultaneously selected, e.g. for epitope mapping or selection of ligands
CC with the highest affinity for antibodies, major histocompatibility
CC complex (MHC) molecules or other components of the immune system

CC complex (MHC) molecules or other components of the immune system.
CC Selected polypeptides can be used diagnostically, e.g. to screen sera or
CC antibody banks, and (poly)peptide expressing cells may be used as live
CC vaccines. They may also be used therapeutically, e.g. when the
CC polypeptide is an antibody, to remove or concentrate pollutants,
CC inactivate toxins, prepare and process food, prepare washing compositions
CC and label cells. Selected bacteria can be stored, reproduced and
CC replicated on a large scale as individual clones

XX

SQ Sequence 271 AA;

Query Match 28.2%; Score 1462; DB 2; Length 271;
Best Local Similarity 100.0%; Pred. No. 6.8e-79;
Matches 271; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 740 LRLRADAGGPWARTFSERQQISNRHARAYDQTVSGLEIGLDRGWSASGGRWYAGLLGYT 799
Db 1 LRLRADAGGPWARTFSERQQISNRHARAYDQTVSGLEIGLDRGWSASGGRWYAGLLGYT 60

QY 800 YADRTYPGDGGGKVKGLHVGGYAAVVDGGYYLDTVLRRLGRYDQQYNIAGTDGGRVTADY 859
Db 61 YADRTYPGDGGGKVKGLHVGGYAAVVDGGYYLDTVLRRLGRYDQQYNIAGTDGGRVTADY 120

QY 860 RTSGAAWSLEGGRRFELPNDWFAEPQAEVMLWRTSGKRYRASNGLRVKVDANTATLGRLG 919
Db 121 RTSGAAWSLEGGRRFELPNDWFAEPQAEVMLWRTSGKRYRASNGLRVKVDANTATLGRLG 180

QY 920 LRFGRRIALAGGNIVQPYARLGTQEFKSTGDRVINGIGHAGAGRHGRVELGAGVDAALG 979
Db 181 LRFGRRIALAGGNIVQPYARLGTQEFKSTGDRVINGIGHAGAGRHGRVELGAGVDAALG 240

QY 980 KGHNLIASYEYAAADRINIPWSFHAGYRYSF 1010

271

Db 241 KGHNLASYEYAAADRINIPWSFHAGYRSF 271

```
RESULT 4
AAE16184
ID  AAE16184 standard; protein; 910 AA.
XX
AC  AAE16184;
XX
DT  15-JUN-2007 (revised)
DT  26-MAR-2002 (first entry)
XX
DE  Bordetella pertussis pertactin outer membrane protein, p.69.
XX
KW  Pertactin; PRN: outer membrane protein; vaccine; Bordetella infection;
KW  therapy; antibiotic; antibacterial; p.69; BOND_PC; pertactin;
KW  pertactin [Bordetella pertussis]; G05524; G07155; G09405.
XX
OS  Bordetella pertussis.
XX
FH  Key      Location/Qualifiers
FT  Region   254..309
FT          /note= "Pertactin region I"
FT  Region   568..609
FT          /note= "Pertactin region II"
XX
PN  WO200190143-A2.
XX
PD  29-NOV-2001.
XX
PF  23-MAY-2001; 2001WO-EP006457.
XX
PR  25-MAY-2000; 2000US-0206969P.
vv
```

XX (INSP) INST PASTEUR.
PA Guiso-Maclouf N, Boursaux-Eude C;
XX
PI WPI; 2002-097639/13.
XX N-PSDB; AAD26441.
DR PC:NCBI; gi4572563.
DR
XX Polypeptides containing polymorphisms of the repeated regions of
PT pertactin in Bordetella species, useful in immunogenic compositions for
PT treating infections caused by Bordetella and in diagnostic methods.
PT
XX Disclosure; Page 31; 47pp; English.
PS
XX The present invention relates to Bordetella bronchiseptica pertactin
CC (outer membrane protein) or their fragments. Pertactin (PRN) is used as
CC vaccine. Pertactin antibody is useful for treating Bordetella infections
CC and used to detect Bordetella antigens in biological preparations or in
CC purifying corresponding proteins, glycoproteins or their mixtures when
CC used in affinity chromatographic columns. Pertactin is useful as antigens
CC to identify antibodies to Bordetella in materials such as human or other
CC animal tissue and human or other animal cells, as well as biological
CC fluids, such as human or other animal body fluids, including human sera,
CC and to determine the concentration of Ab in those materials. Thus the
CC antigens can be used for qualitative or quantitative determination of
CC Bordetella in a material. The present sequence is B. pertussis pertactin
CC outer membrane protein, p.69
CC
CC Revised record issued on 15-JUN-2007 : Enhanced with precomputed
CC information from BOND.
XX
SQ Sequence 910 AA;

	Query Match	25.3%;	Score 1309;	DB 5;	Length910;	
	Best Local Similarity	36.7%;	Pred. No. 3.6e-69;			
	Matches	332;	Conservative 112;	Mismatches 299;	Indels 162;	Gaps 22;
QY	247	GAPLA	AHPPLDRVAAVHAGQ-----	DGKVT	LREVALRAHGPPQATGVYAYMPGS	294
Db	27	GAAPA	AHADWNNQSIVKTGERQHGIHIQGSDPGGVRTASGTTIKVSGRQAQGILLNPAA			86
QY	295	EITLQGGTVSVQG---	DDGAGVVAGAGLLDALPFGGTVRLDGTTVSTDGANTD----	AVL		347
Db	87	ELQFRNGSVTSSGQLSDDGIRRF	LGTVTVKA----GKL	VADHATLANVGDTWD	DDDGIALY	142
QY	348	VRGDAA	RAEVNTVLRTAKSLAAGVSAHQHGRVTLRQTRIETAGAGAEGISVLGE----			403
Db	143	VAGEQAQASIADSTLQG---	AGGVQIERGANVTVQRS	AIVDGGLHIGALQSLQPEDLPP		198
QY	404	-----	PQSGGPASVDMQGSITT-----	TGNRAAGIALTHGS-ARLEGVA		443
Db	199	SRVVL	RDTNVTAVPASGA-PAAVS	VLGASELTLDGGHITGGRAAGVAAMQGA	VVHLQRAT	257
QY	444	VR-----	-----AEGSGSS-----			452
Db	258	IRRGDA	PAGGAVPGGAVPGGFGPGFVP	LDGWYGVDVSGSSVELAQSI	VEAPEL	317
QY	453	--AAQLANGTLVVSAGSLASAQSGAISVTD	TPLKLMPGALASSTVSVRLTDGATAQQGNG			510
Db	318	GAAIRVGRGARVTVSGGSLSAPHGNVIETGGARRFAPQA--	APLSITLQAGAH	AQG--K		372
QY	511	VFLQQHSTIPVAVALESGALARGDIVA-----	DGNK--PLDAGISLSVASGA	AHWGATQ		562
Db	373	ALLYRVLP	PEPVKLTLTGGADAQGDIVATELPSIPGTSIGPLD----	VALASQARWTGATR		428

QY	563	VLQSATLGKGTWVNVNADSRVQDMSMRG-GRVEFQAPAPEASYKTTLLQTLTDGNGVFVLN	621
		: :: : : : : : : : : : : :	
Db	429	AVDSL I -DNATWVMTDNSNVGALRLASDGSVDFQQPAEAGRFKVLTVNTLAGSGLFRMN	487
QY	622	TNVAAGQNDQLRVTGRADGQHRVLVRNAGGEADSRGARLGLVHTQGQGNATFRLANVGKA	681
Db	488	VFADLGLSDKLVVMQDASGQHRLLWVRNSGSEPASANTLL-LVQTPRGSAAFTLANKD GK	546
QY	682	VDLGTWRYSLAEDPKTHVWSL-----Q RAGQA	708
		: : : :	: :
Db	547	VDIGTYRYRLAANGNQ-WSLVGAKAPPAPKPAPQPPQPPQPPQPEAPAPPPAGRE	605
QY	709	LSGAANAAVNAA DL---SSIALAESNALDKRLGELRLRADAGGPWARTFSERQQISNRHA	765
Db	606	LSAAANAAVNTGGVGLASTLWYAESNALSKRLGELRLNPDAGGAWGRGFAQRQQLDNRAG	665
QY	766	RAYDQTVSGL EIGLDRGWSASGGRWYAGLLGYTYADRTYPGDGGKVKGLHVGGYAA YV	825
Db	666	RRFDQKVAGFELGADHAVAVAGGRWHLGGLAGYTRGDRGFTGDGGGHTDSVHVGGYATYI	725
QY	826	GDGGYYLDTVLRRLGRYDQQYNIAGTDGGRVTADYRTSGAAWSLEGRRRFELPNDWFAEPQ	885
Db	726	ADSGFYLDATLRASRL ENDFKVAGSDGYAVKGYRTHGVGASLEAGRRFTHADGWFL EPQ	785
QY	886	AEVMLWRTSGKRYRASNGLRVKVDANTATLGRGLGRFGRRIALAGGNIVQPYARLGTQE	945
Db	786	AELAVFRAGGGAYRAANGLRVRDEGGSSVLGRLGLEVGKRIELAGGRQVQPYIKASVLQE	845
QY	946	FKSTGDVRTNGIGHAGAGRHGRVELGAGVDAALGKGHNLYASYEYAAGDRINIPWSFHAG	1005
Db	846	FDGAGTVHTNGIAHRTLRGTRAE LGLGMAAALGRGHSLSYASYEYSGPKLAMPWTFHAG	905
QY	1006	YRYSF 1010	

```

Db          906 YRYSW 910
||||:
RESULT 5
AAE17146
ID  AAE17146 standard; protein; 910 AA.
XX
AC  AAE17146;
XX
DT  15-JUN-2007 (revised)
DT  18-APR-2002 (first entry)
XX
DE  Bordetella pertussis pertactin (Prn1) protein.
XX
KW  Pertactin; prn1; antibacterial; immunostimulant; antimicrobial; vaccine;
KW  diphtheria; tetanus; polio; Haemophilus influenza b infection; therapy;
KW  immune response; BOND_PC; pertactin precursor;
KW  pertactin precursor [Bordetella pertussis Tohama I]; prn;
KW  pertactin outer membrane protein;
KW  pertactin outer membrane protein [Bordetella pertussis]; Pertactin;
KW  Pertactin [Bordetella pertussis]; P.69A protein;
KW  P.69A protein [Bordetella pertussis]; G05515; G07155; G09405; G016020;
KW  G019867.
XX
OS  Bordetella pertussis.
XX
FH  Key          Location/Qualifiers
FT  Region      597. .604
FT              /note= "Conserved region"
XX
PN  W0200200695-A2.
XX

```

PD	03-JAN-2002.
XX	
PF	29-JUN-2001; 2001WO-NL000493.
XX	
PR	30-JUN-2000; 2000EP-00202309.
XX	
PA	(NEWE-) NEDERLANDEN MIN WELZIJN.
XX	
PI	Mooi FR;
XX	
DR	WPI; 2002-139897/18.
DR	PC:NCBI; gi464364.
DR	PC:SWISSPROT; P14283.
DR	PC:BIND; 330939,330940.
XX	
PT	New polypeptides derived from Bordetella pertussis pertactin, useful as a
PT	vaccine against infections caused by Bordetella strains, and other
PT	infectious diseases of mammals, e.g. diphtheria, tetanus, or polio.
XX	
PS	Claim 11; Page 35-38; 52pp; English.
XX	
CC	The invention relates to polypeptides derived from Bordetella pertussis
CC	pertactin (Prn1). The polypeptide is useful in the preparation of
CC	vaccines against B. pertussis, B. parapertussis, B. bronchiseptica and
CC	other infectious diseases of mammals including diphtheria, tetanus, polio
CC	and infections caused by Haemophilus influenza b. The polypeptide is
CC	especially useful for eliciting an immune response against Bordetella sp.
CC	Antibodies against the polypeptide may be used for pharmaceutical and/or
CC	diagnostic purposes, particularly for treating or preventing infections
CC	caused by Bordetella pertussis or Bordetella parapertussis. The present
CC	sequence is B. pertussis prn1 protein
CC	
CC	Revised record issued on 15-JUN-2007 : Enhanced with precomputed
CC	information from DART

Db	373	ALLYRVLPEPVKLTLTGGADAQGDIVATELPSIPGTSIGPLD-----VALASQARWTGATR	428
QY	563	VLQSATLGKGGTWWVNADSRVQDMSMRG-GRVEFQAPAPEASYKTLTLQTLTDGNGVFLN	621
Db	429	AVDSLSI-DNATWMTDNSNVGALRLASDGSVDFQQPAEAGRFKVLTVNTLAGSGLFRMN	487
QY	622	TNVAAGQNDQLRVTGRADGQHRVLVRNAGGEADSRGARLGLVHTQGQGNATFRLANVGKA	681
Db	488	VFADLGLSDKLVVMQDASGQHRLWVRNSGSEPASANTLL-LVQTPLGSAATFTLANKDGK	546
QY	682	VDLGTWRYSLAEDPKTHVWSL-----QRAGQA	708
Db	547	VDIGTYRYRLAANGNQ-WSLVGAKAPPAPKPAPQPPQPPQPEAPAPQPPAGRE	605
QY	709	LSGAANAAVNAADL---SSIALAESNALDKRLGELRLRADAGGPWARTFSERQQISNRHA	765
Db	606	LSAAANAAVNTGCVGLASTLWYAESNALSKRLGELRLNPDAGGAWGRGFAQRQQLDNRAG	665
QY	766	RAYDQTVSGLEIGLDRGWSASGGRWYAGGLLGYTYADRTYPGDGGGKVKGLHVGGYAAVY	825
Db	666	RRFDQKVAGFELGADHAVAVAGGRWHLGGLAGYTRGDRGFTGDGGGHTDSVHVGGYATYI	725
QY	826	GDGGYYLDTVLRLGRYDQQYNIAGTDGGRVTADYRTSGAAWSLEGRRRFELPNDWFAEPQ	885
Db	726	ADSGFYLDATLRASRLENDFKVAGSDGYAVKGYRTHGVGASLEAGRRFTHADGWFLFPQ	785
QY	886	AEVMLWRTSGKRYRASNGLRVKVDANTATLGRGLRFGRRRIALAGGNIVQPYARLGMTQE	945
Db	786	AELAVFRAGGGAYRAANGLRVRDEGGSSVLGRGLGVGKRIELAGGRQVQPYIKASVLQE	845
QY	946	FKSTGDIVRTNGIGHAGAGRHGRVELGAGVDAALGKGHNLYASYEYAAAGDRINIPWSFHAG	1005

Db 846 FDGAGTVHTNGIAHRTGTRAEGLGMAAALGRGHSLYASYEYSGPKLAMPWTFHAG 905

QY 1006 YRYSF 1010
|||:
Db 906 YRYSW 910

RESULT 6
ADZ46876

ID ADZ46876 standard; protein; 910 AA.

XX

AC ADZ46876;

XX

15-JUN-2007 (revised)

30-JUN-2005 (first entry)

XX

BASB232 polypeptide encoded by Orf15.

XX

BASB232; vaccine; bacterial infection; bordetella pertussis infection;
antibacterial; BOND_PC; pertactin precursor;
pertactin precursor [Bordetella pertussis Tohama I]; prn;
pertactin outer membrane protein;
pertactin outer membrane protein [Bordetella pertussis]; Pertactin;
Pertactin [Bordetella pertussis]; P.69A protein;
P.69A protein [Bordetella pertussis]; GO5515; GO7155; GO9405; GO16020;
GO19867.

XX

Bordetella pertussis.

OS

WO2005032584-A2.

XX

14-APR-2005.

PD

XX

01 OCT 2004. 000450 EDD11000

PF 01-OCT-2004; 2004WO-EP011082.
 XX
 PR 02-OCT-2003; 2003GB-00023112.
 PR 02-OCT-2003; 2003GB-00023113.
 XX
 PA (GLAX) GLAXOSMITHKLINE BIOLOGICALS SA.
 XX
 PI Castado C, Denoel P, Godfroid F, Poolman J;
 XX
 DR WPI; 2005-296056/30.
 DR N-PSDB; ADZ46875.
 DR PC:NCBI; gi464364.
 DR PC:SWISSPROT; P14283.
 DR PC:BIND; 330939,330940.
 XX
 PT Immunogenic composition, comprises polypeptide of Bordetella pertussis or
 PT mixture of different B.pertussis, antigens, useful in Bordetella disease
 PT treatments.
 XX
 PS Claim 3; SEQ ID NO 30; 172pp; English.
 XX
 CC The invention relates to BASB232 polypeptides (SEQ Group 2), and the
 CC polynucleotide sequences (SEQ Group 1) encoding them. The invention also
 CC relates to an immunogenic composition, comprising a B. pertussis BASB232
 CC polypeptide or a mixture of 2-9 or 10 different B. pertussis antigens,
 CC chosen from Bordetella autotransporter protein, Bordetella iron
 CC acquisition protein, Bordetella lipoprotein, Bordetella adhesin and
 CC Bordetella toxin/invasin, and an excipient. Also described is a vaccine
 CC comprising the above immunogenic composition. The immunogenic composition
 CC is useful in the preparation of a medicament for use in the treatment or
 CC prevention of Bordetella disease such as whooping cough. The immunogenic
 CC composition and vaccine are useful for treating or preventing Bordetella
 CC infections such as B. pertussis, B. parapertussis or B. bronchiseptica
 CC infections by administering the vaccine to a host. This composition

Db	318	GA	IR	V	G	R	G	A	R	V	T	S	G	S	L	S	A	P	H	G	N	V	I	E	T	G	A	R	R	F	A	P	Q	A	--	A	P	L	S	I	T	L	Q	A	G	A	H	A	Q	G	--	K	372									
Qy	511	V	F	L	Q	Q	H	S	T	I	P	V	A	V	A	L	E	S	G	A	L	A	R	G	D	I	V	A	-----	D	G	N	K	--	P	L	D	A	G	I	S	L	S	V	A	S	G	A	A	H	G	A	T	Q	562							
Db	373	A	L	L	Y	R	V	L	P	E	P	V	K	L	T	L	T	G	A	D	A	Q	D	I	V	A	T	E	L	P	S	I	P	G	T	S	I	G	P	L	D	---	V	A	L	A	S	Q	A	R	W	T	G	A	T	R	428					
Qy	563	V	L	Q	S	A	T	L	G	K	G	T	W	V	N	A	D	S	R	V	Q	D	M	S	M	R	G	--	G	R	V	E	F	Q	A	P	A	P	E	A	S	Y	K	T	L	T	L	Q	T	L	D	G	N	G	V	F	V	L	N	621		
Db	429	A	V	D	S	L	S	I	--	D	N	A	T	W	M	T	D	N	S	V	G	A	L	R	L	A	S	D	G	S	V	D	F	Q	Q	P	A	E	A	G	R	F	K	V	L	T	V	N	T	L	A	G	S	G	L	F	R	M	N	487		
Qy	622	T	N	V	A	A	G	Q	N	D	Q	L	R	V	T	G	R	A	D	G	Q	H	R	V	L	V	R	N	A	G	E	A	D	S	R	G	A	R	L	G	L	V	H	T	Q	G	Q	N	A	T	F	R	L	A	N	V	G	K	A	681		
Db	488	V	F	A	D	L	G	L	S	D	K	L	V	M	Q	D	A	S	G	Q	H	R	L	W	V	R	N	S	G	S	E	P	A	S	A	N	T	L	L	--	L	V	Q	T	P	L	G	S	A	A	T	F	L	A	N	K	D	G	K	546		
Qy	682	V	D	L	G	T	W	R	Y	S	L	A	E	D	P	K	T	H	V	W	S	L	-----	Q	R	A	G	Q	A	708																																
Db	547	V	D	I	G	T	Y	R	Y	R	L	A	A	N	G	N	G	Q	--	W	S	L	V	G	A	K	A	P	P	A	P	K	P	A	P	Q	P	Q	P	P	Q	P	P	Q	P	P	Q	P	E	A	P	A	P	P	P	A	G	R	E	605		
Qy	709	L	S	G	A	N	A	A	V	N	A	A	D	L	--	S	S	I	A	L	A	E	S	N	A	L	D	K	R	L	G	E	L	R	L	R	A	D	A	G	P	W	A	R	T	F	S	E	R	Q	I	S	N	R	H	A	765					
Db	606	L	S	A	A	N	A	A	V	N	T	G	G	V	G	L	A	S	T	L	W	Y	A	E	S	N	A	L	S	K	R	L	G	E	L	R	L	N	P	D	A	G	G	A	W	G	R	G	F	A	Q	R	Q	Q	L	D	N	R	A	G	665	
Qy	766	R	A	Y	D	Q	T	V	S	G	L	E	I	G	L	D	R	G	W	S	A	S	G	R	W	Y	A	G	G	L	G	Y	T	Y	A	D	R	T	Y	P	G	D	G	G	K	V	K	G	L	H	V	G	Y	A	A	Y	V	825				
Db	666	R	R	F	D	Q	K	V	A	G	F	E	L	G	A	D	H	A	V	A	V	A	G	G	R	W	H	L	G	L	A	G	Y	T	R	G	D	R	G	F	T	G	D	G	G	H	T	D	S	V	H	V	G	Y	A	T	Y	I	725			
Qy	826	G	D	G	G	Y	Y	L	D	T	V	L	R	L	G	R	Y	D	Q	Q	N	I	A	G	T	D	G	G	R	V	T	A	D	Y	R	T	S	G	A	A	W	S	L	E	G	G	R	R	F	E	L	P	N	D	W	F	A	E	P	Q	885	
Db	726	A	D	S	G	F	Y	L	D	A	T	L	R	A	S	R	L	E	N	D	E	F	K	V	A	G	S	D	G	Y	A	V	K	G	Y	R	T	H	G	V	G	A	S	L	E	A	G	R	R	F	T	H	A	D	G	W	F	L	E	P	Q	785
Qy	886	A	E	V	M	L	W	R	T	S	G	K	R	Y	R	A	S	N	G	L	R	V	K	V	D	A	N	T	A	T	L	G	R	L	G	R	F	G	R	R	I	A	L	A	G	N	I	V	Q	P	Y	A	R	L	G	W	T	Q	E	945		

XX WO2005034995-A1.
PN
XX
PD 21-APR-2005.
XX
PF 30-SEP-2003; 2003WO-US031057.
XX
PR 10-SEP-2003; 2003US-0502032P.
XX
PA (CHIR) CHIRON CORP.
XX
PI Abrignani S, Cohen F, Michelitsch MD, Hu CY, Phelps B;
XX
DR WPI; 2005-306277/31.
DR PC:NCBI; gi15213624.
XX
PT Generating antibodies specific to pathogenic prion, useful in detecting
PT presence of pathogenic prion, involves administering prion chimera having
PT prion protein and non-prion, beta-helical protein, to animal.
XX
PS Claim 9; SEQ ID NO 3; 173pp; English.
XX
CC The invention relates to generating (M1) antibodies specific to a
CC pathogenic prion, comprising administering to an animal a prion chimera
CC (PC), where PC comprises a prion protein (PrP) or its fragment or
CC derivative, and a non-prion, beta-helical protein or its fragment or
CC derivative. Also included are an antibody (I) specific to PC, a
CC polynucleotide (P1) encoding (I), detecting the presence of pathogenic
CC prion in a biological sample, a solid support comprising (I) bound to it,
CC a solid support for use in immunoassay (comprising at least one antibody
CC specific to pathogenic and nonpathogenic prions bound to it), a kit for
CC detecting the presence of a pathogenic prion in a biological sample, an
CC immunogenic composition (C1) (comprising a PC and an adjuvant, or a
CC polynucleotide encoding PC and an adjuvant) and treatment or prevention

polynucleotide encoding PC and an adjuvant) and treating or preventing (M2) a pathogenic prion related disease, involves administering PC to an animal. The PrP or its fragment or derivative has a beta-helical conformation of a pathogenic prion, and comprises a fragment corresponding to amino acids 126-154 or 135-155 of the full length human or mouse prion (PrP) protein. The non-prion-beta-helical protein is a left handed helical protein or right handed helical protein. The non-prion-beta-helical protein is derived from Pertussis toxin P69 pertactin (fragments used are designated Control A or Control B) or gamma carbonic anhydrase (GCA, fragments used also designated Control A and Control B (optionally lacking the leader peptide)). The PC further comprises a tag sequence, where the tag sequence is a histidine tag sequence, and may include a tpa leader peptide (not defined). The method is useful for generating antibodies specific to pathogenic prion. The antibody is useful for raising an immune response to a pathogenic prion, which involves administering the antibody to an animal. The antibody is useful for detecting the presence of pathogenic prion in a biological sample. The immunogenic composition is useful for raising an immune response to a pathogenic prion. The methods, antibodies and compositions are useful for treating or preventing a pathogenic prion related disease including transmissible spongiform encephalopathies, Creutzfeldt-Jacob disease, Gerstmann-Straussler-Scheinker syndrome, Fatal familial insomnia, bovine spongiform encephalopathies, transmissible mink encephalopathies, scrapie, mad cow disease, feline spongiform encephalopathies and kuru. The present sequence is the full length P69 protein.

Revised record issued on 15-JUN-2007 : Enhanced with precomputed information from BOND.

Sequence 915 AA;

Query Match 25.2%; Score 1304.5; DB 10; Length 915;

Best Local Similarity 36.5%; Pred. No. 6.8e-69;

Matches 322. Complementarity 112. Mismatches 200. Total 167. Gap 22.

	Matches	332;	Conservative	112;	Mismatches	299;	Indels	167;	Gaps	22;					
QY	247	GAPLAAHPPLDRVA	AHVAGQ-----	DGKVT	LR	RE	VAL	RAHGP	QATGV	YAYM	PGS	294			
			: : :			:		:							
Db	27	GAAPAAHADWNNQ	SIVKTGERQH	GIHQSD	PGGVRT	ASGTTIKV	SGRQAQ	GILLEN	PAA			86			
QY	295	EITLQGGTVSVQ	G---DDGAG	VVAGAGLL	DALP	PGGTVRL	DGTTV	STDGANTD	----	AVL		347			
		: : :		:		: :	:	:							
Db	87	ELQFRNGSVTSSG	QLSDDGIR	FLGT	VTVKA---	GKL	VADHAT	LANVGD	TWDDDD	GIALY		142			
QY	348	VRGDAARAEVVNT	VLRTAKSLAAG	VS	AQHGR	VTLRQ	TR	ETAGAGA	EGIS	VLGFE----		403			
		: :	: :		:	: :		:							
Db	143	VAGEQAQASIAD	STLQG----	AGGVQ	IERGAN	TVQ	RS	AI	VDGGLH	GALQ	SLQPEDLPP	198			
QY	404	-----	PQSGSGPAS	VD	MQGS	ITT-----	TGNRAAG	IALTHGS	-AR	LEGVA		443			
		: :	:			:	:								
Db	199	SRVLRD	TNVTAVPASGA	-PAA	VS	VLGASEL	TL	DGGHIT	GGRAAG	VAA	MQGAVVHLQ	RAT	257		
QY	444	VR-----	-----	-----	-----	-----	AEGSGSS	-----				452			
		:				:									
Db	258	IRRGDAPAGG	AVPGGAVPGG	FGPGG	FGPGG	FGP	VD	GWYGV	DVSGSS	VELAQ	SIV	317			
QY	453	-----	AAQLANG	TLVVSAG	SLAS	AQSGA	IS	VTDTPL	KLMPG	ALAS	STVSVRL	TDGATA	505		
		: :	:		:		:		: :						
Db	318	EAPELGAAIR	VGRGAR	TV	SGGSL	APHG	NV	ETGGARR	FAPQA---	APL	SITLQAG	AHA	374		
QY	506	QGGNGVFLQ	QHSTIP	VAVALE	SGAL	ARGD	IVA-----	DGNK	--PLD	AGIS	LSVAS	GAAW	557		
			:		:				: :						
Db	375	QG--KALL	YRVLPEP	VKLTL	TGGADA	QGD	IV	ATELPS	IPGTS	IGPLD----	VALASQ	ARW	428		
QY	558	HGATQVLQ	SATLGKGG	TWVNAD	SRVQ	DMSMRG	-GR	VEFQ	AP	AP	EASYK	TLTLQ	LDGNG	616	
		:	: :	:	:	:	:	:	:		:				
Db	429	TGATRAVD	SLSI-DN	ATWVMT	DN	SVGAL	RLASD	GS	VD	FQQP	AE	AG	FKVLT	VNTLAGSG	487

Qy	617	VFVLNTNVAAGQNDQLRVTGRADGQHRLVLRNAGGEADSRGARLGLVHTQGQGNATFRLA	676
		: : : : : : : : : : : : : : : :	
Db	488	LFRMNVFADLGLSDKLVVMQDASGQHRLWVRNSGSEPASANTLL-LVQTPLGSAATFTLA	546
Qy	677	NVGKAVDLGTWRYSLAEDPKTHVWSL-----Q	703
		: : : : : : :	
Db	547	NKDGKVDIGTYRYRLAANGNQ-WSLVGAKAPPAPKPAPQPGPPQPPQPEAPAPQP	605
Qy	704	RAGQALSGAANAAVNAADL---SSIALAESNALDKRLGELRLRADAGGPWARTFSERQQI	760
		: : : : : : :	
Db	606	PAGRELSAAANAAVNTGGVGLASTLWYAESNALSKRLGELRLNPDAGGAWGRGFAQRQQL	665
Qy	761	SNRHARAYDQTVSGLEIGLDRGWSASGGRWYAGGLLGYTYADRTYPGDGGKVKGLHVGG	820
		: : : : : : : : : : : : : :	
Db	666	DNRAGRRFDQKVAGFELGADHAVAVAGGRWHLGGLAGYTRGDRGFTGDGGGHTDSVHVGG	725
Qy	821	YAAVVGDDGGYYLDTVLRRLGRYDQQYNIAGTDGGRVTADYRTSGAAWSLEGGRRFELPNDW	880
		: : : : : : : : : : : : : : : :	
Db	726	YATYIADSGFYLDATLRASRLENDFKVGAGSDGYAVKGYRTHGVGASLEAGRRTHADGW	785
Qy	881	FAEPQAEVMLWRTSGKRYRASNGLRVKVDANTATLGRGLRFGRRIALAGGNIVQPYARL	940
		: : : : : : : : : : : : : :	
Db	786	FLEPQAE LAVFRAGGGAYRAANGLRVRDEGGSSVLGRLGLEVGKRIELAGGRQVQPYIKA	845
Qy	941	GWTQEFKSTGDVVRTNGIGHAGAGRHGRVELGAGVDAALKGHNLYASYEYAAGDRINIPW	1000
		: : : : : : : : : : :	
Db	846	SVLQEFDGAGTVHTNGIAHRTLRGTRAEGLGMAAALGRGHSLYASYEYSKGPKLAMPW	905
Qy	1001	SFHAGYRYSF	1010
		:	
Db	906	TFHAGYRYSW	915

RESULT 8

AAR14320

ID AAR14320 standard; protein; 911 AA.

XX

AC AAR14320;

XX

DT 25-MAR-2003 (revised)

DT 20-JAN-1992 (first entry)

XX

DE Pertactin antigen P.68.

XX

KW Pertactin; Pichia; B. pertussis; B. parapertussis.

XX

OS Bordetella bronchiseptica.

XX

FH Key Location/Qualifiers

FT Peptide

266..270

/label= repeat

FT Peptide

271..275

/label= repeat

FT Peptide

570..572

/label= repeat

FT Peptide

574..576

/label= repeat

FT Peptide

578..580

/label= repeat

FT Peptide

581..583

/label= repeat

FT Peptide

584..586

/label= repeat

FT Peptide

587..589

/label= repeat

FT

590..591

FT Peptide 599. .601
 FT /label= repeat
 XX
 PN W09115571-A.
 XX
 PD 17-OCT-1991.
 XX
 PF 02-APR-1990; 90GB-00007416.
 XX
 PR 02-APR-1990; 90GB-00007416.
 XX
 PA (WELL) WELLCOME FOUND LTD.
 XX
 PI Clare JJ, Romanos MA;
 XX
 DR WPI; 1991-325214/44.
 DR N-PSDB; AAQ14319.
 XX
 PT Pichia microorganism transformants - for production of Bordetella
 PT pertactin antigens for whooping cough vaccines.
 XX
 PS Disclosure; Fig 1B; 38pp; English.
 XX
 CC Pichia microorganisms are transformed for the expression of pertactin
 CC antigens. DNA sequence used are represented in AAQ14319-20 encoding the
 CC B. bronchiseptica P.68 and B. parapertussis P.70 antigen respectively or
 CC the B. pertussis P.69 encoding sequence described by I.G. Charles et al.
 CC Proc. Natl. Acad. Sci. USA, Vol. 80:3554-3448 (1989). (Updated on 25-MAR-
 CC 2003 to correct PA field.)
 XX
 SQ Sequence 911 AA;

Query Match 25.1%; Score 1299.5; DB 2; Length 911;

Post Total similarity... of seq. Found Max 1 30 60.

Db	432	VMTDNSNVGALRLASDGSVDFQQ̂PAEAGRFFKCLMVDTLAGSGLFRMNVFADLGLSDKLVV	491
QY	635	TGRADGQHRVLVRNAGGEADSRGARLGLVHTQGQGNATFRLANVGKAVDLGTWRYSLAED	694
Db	492	MRDASGQHRLLRVNSGSEPAS-GNTMLLVQTTPRGSAAFTLANCKDGKVDIGTYRYRLAAN	550
QY	695	PKTHVWSL-----QR-----AGQALSG	711
Db	551	GNGQ̂-WSLVGAKAPPAPKPAPQ̂PGPQ̂PPQ̂PPQ̂PPQ̂PPQ̂PEAPAPQ̂PPAGRELSA	609
QY	712	AANAAVNAADL---SSIALAESNALDKRLGELRLRADAGGPWARTFSEHQ̂ISNRHARAY	768
Db	610	AANAAVNTGGVGLASTLWYAESNALSKRLGELRLNPDAGGAWGRGFAQ̂RQ̂QLDNRAGRFF	669
QY	769	DQ̂TVSGLEIGLDRGWSASGGRWYAGLLGYTYADRTYPGDGGKVKGLHVGGYAAVVDG	828
Db	670	DQ̂KVAGFELGADHAVAVAGGRWHLGGLAGYTRGDRGFTGDGGHTDSVHVGGYATYIANS	729
QY	829	GYLDTVLRLGRYDQ̂Q̂YNIAGTDGGRVTADYRTSGAAWSLEGGRRFELPNDWFAPQ̂AEV	888
Db	730	GFYLDATLRASRLENDFKVAGSDGYAVKGKYRTHGVGASLEAGRRFAHADGWFLEPQ̂AEL	789
QY	889	MLWRTSGKRYRASNGLRVKVDANTATLGRGLRFGRRIALAGNIVQ̂PYARLGTWTFEFS	948
Db	790	AVFRVGGGSYRAANGLRVRDEGSSVLGRGLGVGKRIELAGGRQ̂VQ̂PIKASVLQ̂EFDG	849
QY	949	TGDVRTNGIGHAGAGRHGRVELGAGVDAALGKGHNLYASYEYAGDRINIPWSFHAGYRY	1008
Db	850	AGTVRTNGIAHRTELRGTRAEELGLGMAAALGRHSLYASYEYSKPKLAMPWTFHAGYRY	909
QY	1009	SF 1010	
Db	910	SW 911	

```

RESULT 9
AAE16183
ID  AAE16183 standard; protein; 911 AA.
XX
AC  AAE16183;
XX
DT  15-JUN-2007 (revised)
DT  26-MAR-2002 (first entry)
XX
DE  Bordetella bronchiseptica pertactin outer membrane protein, p.68.
XX
KW  Pertactin; PRN; outer membrane protein; vaccine; Bordetella infection;
KW  therapy; antibiotic; antibacterial; p.68; BOND_PC; P.68 Peractin;
KW  P.68 Peractin [Bordetella bronchiseptica]; G05515; G05524; G07155;
KW  G09405; G016020; G019867.
XX
OS  Bordetella bronchiseptica.
XX
FH  Key      Location/Qualifiers
FT  Region   254..299
FT          /note= "Pertactin region I"
FT  Region   559..610
FT          /note= "Pertactin region II"
XX
PN  WO200190143-A2.
XX
PD  29-NOV-2001.
XX
PF  23-MAY-2001; 2001WO-EP006457.
XX
PR  25-MAY-2000; 2000US-0206969P.
vv

```

XX (INSP) INST PASTEUR.
PA Guiso-Maclouf N, Boursaux-Eude C;
XX
PI WPI; 2002-097639/13.
XX N-PSDB; AAD26440.
DR PC:NCBI; gi39397.
DR PC:SWISSPROT; Q03035.
XX
PT Polypeptides containing polymorphisms of the repeated regions of
PT pertactin in Bordetella species, useful in immunogenic compositions for
PT treating infections caused by Bordetella and in diagnostic methods.
XX
PS Disclosure; Page 28; 47pp; English.
XX
CC The present invention relates to Bordetella bronchiseptica pertactin
CC (outer membrane protein) or their fragments. Pertactin (PRN) is used as
CC vaccine. Pertactin antibody is useful for treating Bordetella infections
CC and used to detect Bordetella antigens in biological preparations or in
CC purifying corresponding proteins, glycoproteins or their mixtures when
CC used in affinity chromatographic columns. Pertactin is useful as antigens
CC to identify antibodies to Bordetella in materials such as human or other
CC animal tissue and human or other animal cells, as well as biological
CC fluids, such as human or other animal body fluids, including human sera,
CC and to determine the concentration of Ab in those materials. Thus the
CC antigens can be used for qualitative or quantitative determination of
CC Bordetella in a material. The present sequence is B. bronchiseptica
CC pertactin outer membrane protein, p.68
CC
CC Revised record issued on 15-JUN-2007 : Enhanced with precomputed
CC information from BOND.
XX
CC

Query Match	25.0%;	Score 1293.5;	DB 5;	Length 911;
Best Local Similarity	36.5%;	Pred. No. 3e-68;		
Matches 329;	Conservative 118;	Mismatches 300;	Indels 155;	Gaps 23;

QY	247	GAPLA	AHPPLDR	VAAVHAGQ-----	DGKV	TLREVAL	RAHGPQATGV	YAYMPGS	294		
			:	: : :		: :		:			
Db	27	GAAP	AYADWNNQ	SIKAGERQH	GIHIKQSDG	AGVRTATG	TTIKVSGRQAQ	GVLLNPAA	86		
QY	295	EITL	QGTVSVQG---	DDGAGV	VAGAGLLDAL	PPGGTVRLD	GTTVS--	TDGANTD--	AVL 347		
		:	:	:	:	:	: :	:			
Db	87	ELRF	QNGSVTSSG	QLFDEGVR	FLGTVTVKA---	GKLVADH	ATLANVSD	TRDDDGIALY	142		
QY	348	VRGDA	ARAEVNTV	LRTAKSLA	AGVSAQHGG	RVTLRQ	TRIETAGAGA	EGISVLGFE---	403		
		:	: :	:	: :		:	:			
Db	143	VAGE	QAQAS	IADSTLQG---	AGVR	VERGANVT	QRSTIVD	GGLHIGTLQ	PLQPEDLPP 198		
QY	404	-----	PQSG	GPASVDMQ	GGSIIT-----	TGNRA	AGIALTHGS-	ARLEGVA	443		
		:	:	:	:		:	:			
Db	199	SRVVL	GDTSVTAV	PASGA-PAA	VSVF	GANELTV	DGGHITG	GRAAGVA	AMDGAIVHLQ	RAT 257	
QY	444	VR---	AEGSGS-----	SAAQLA-----	NG	459					
		:	:								
Db	258	IRRG	DAPAGGAV	PGGAVPGG	FGLLDG	WYGV	VDVSDST	VDLAQ	SIVEAPQLGAA	IRAGRA 317	
QY	460	TLVV	SAGSLAS	AQSGAIS	VTDTPL	KLMPG	ALASSTV	SVRLTD	GATAQGGNG	VFLQQHSTI 519	
		:	:		:	:		:			
Db	318	RVT	VGGSLS	APHGNV	ETGGGARR	FPPPA---	SPL	SITLQ	AGARAQG--	RALLYRVLPE 372	
QY	520	PVA	VAESGAL	ARGD	IVADGN	KPLDAG----	ISL	SVASGA	AHWGATQVL	QSATLKG	GTW 575
		:	:	:	: : :	:	:	:			
Db	373	PVKL	TLAGGA	OQGD	IVATEL	PPIPG	ASSG	PLDVAL	ASOARWTG	ATRAVDSLSI-	DNATW 431

Qy 1009 SF 1010
 |:
 Db 910 SW 911

RESULT 10
 AAR25578
 ID AAR25578 standard; protein; 922 AA.
 XX
 AC AAR25578;
 XX
 DT 15-JUN-2007 (revised)
 DT 25-MAR-2003 (revised)
 DT 08-JAN-1993 (first entry)
 XX
 DE Bordetella parapertussis P95 antigen precursor.
 XX
 KW Whooping cough; P70 antigen; P95 precursor protein; vaccination; BOND_PC;
 KW pertactin precursor;
 KW pertactin precursor [Bordetella parapertussis 12822]; prn; pertactin;
 KW pertactin [Bordetella parapertussis];
 KW pertactin precursor [Bordetella parapertussis]; G05515; G07155; G09405;
 KW G016020; G019867.
 XX
 OS Bordetella parapertussis.
 XX
 FH Key Location/Qualifiers
 FT Protein 35..643
 FT /label= P70
 FT Binding-site 260..262
 FT /note= "motif associated with cell-cell adhesion"
 FT Region 266..285
 FT /note= "contains 5 direct, tandem repeats"
 FT 575..612

FT Region 575. .612
 FT /note= "contains 9 direct repeats of Pro-Gln-Pro"
 FT Binding-site 712. .714
 FT /note= "motif associated with cell-cell adhesion"
 XX
 PN W09211292-A1.
 XX
 PD 09-JUL-1992.
 XX
 PF 23-DEC-1991; 91WO-GB002302.
 XX
 PR 21-DEC-1990; 90GB-00027901.
 XX
 PA (WELL) WELLCOME FOUND LTD.
 XX
 PI Charles IG;
 XX
 DR WPI; 1992-250033/30.
 DR N-PSDB; AAQ26509.
 DR PC:NCBI; gi129828.
 DR PC:SWISSPROT; P24328.
 XX
 PT Acellular vaccine for immunisation against whooping cough - comprises
 PT protein uncontaminated by B. para:pertussis components and capable of
 PT binding antibodies which bind native P70 antigen.
 XX
 PS Claim 1; Fig 1; 20pp; English.
 XX
 CC A cosmid library was constructed by transforming E.coli HB101 with
 CC recombinant cosmids prepared by partial digestion of B.parapertussis
 CC chromosomal DNA with Sau3A and cloning of 40-50kb fragments into the
 CC BamHI site of cosmid pHC79. The cosmids were screened with a 1.8kb ClaI
 CC fragment from the prn gene of B.pertussis. The insert from one positive
 CC colony containing cosmid pPD011 was sequenced and found to contain an

[illegible]

Qy	818	VGGYAAVVG	GGYYLD	TVLRLGRYD	QQYNIAG	TDGGRVT	ADYRTS	GAAWSLE	GGRRFELP	877
			:			:	:			
Db	730	VGGYATY	IANSGFY	LDTLRAS	LENDFK	VAGSDG	YAVKGK	YRTHG	VSVLEAG	RRFAHA
			:			:	:			
Qy	878	NDWFAEP	QAEVML	WRTSGK	RYRAS	NGLRV	KVDANT	ATLGR	LGRFR	RRIALAG
				:			:	:		
Db	790	DGWFLEP	QAE	LA	VFRVGG	AYRAAN	GLRV	DEGG	SSVLGR	LGLLEV
				:			:	:		
Qy	938	ARLGWTQ	EFKSTG	DVRTN	GIGHAG	AGRHGR	VELGAG	VDAA	LKGHNL	YASYEY
		:							:	
Db	850	IKASVLQ	EF	DGAGT	VRTN	GIAHR	TEL	RGTR	AE	LG
		:							:	
Qy	998	IPWSF	HAGYR	YSF	1010					
		:	:		:					
Db	910	MPWTF	HAGYR	YSW	922					

RESULT 11

AAE16185

ID AAE16185 standard; protein; 922 AA.

XX

AC AAE16185;

XX

DT 15-JUN-2007 (revised)

DT 26-MAR-2002 (first entry)

XX

DE Bordetella parapertussis pertactin outer membrane protein, p.70.

XX

KW Pertactin; PRN; outer membrane protein; vaccine; Bordetella infection; therapy; antibiotic; antibacterial; p.70; BOND_PC; pertactin precursor; pertactin precursor [Bordetella parapertussis 12822]; prn; pertactin; pertactin [Bordetella parapertussis];

KW pertactin precursor [Bordetella parapertussis]; GO5515; GO7155; GO9405;

20160301 0010067

KW GO16020; GO19867.
 XX
 OS Bordetella parapertussis.
 XX
 FH Key Location/Qualifiers
 FT Region 254. .304
 FT /note= "Pertactin region I"
 FT Region 564. .621
 FT /note= "Pertactin region II"
 XX
 PN WO200190143-A2.
 XX
 PD 29-NOV-2001.
 XX
 PF 23-MAY-2001; 2001WO-EP006457.
 XX
 PR 25-MAY-2000; 2000US-0206969P.
 XX
 PA (INSP) INST PASTEUR.
 XX
 PI Guiso-Maclouf N, Boursaux-Eude C;
 XX
 DR WPI; 2002-097639/13.
 DR N-PSDB; AAD26442.
 DR PC:NCBI; gi129828.
 DR PC:SWISSPROT; P24328.
 XX
 PT Polypeptides containing polymorphisms of the repeated regions of
 PT pertactin in Bordetella species, useful in immunogenic compositions for
 PT treating infections caused by Bordetella and in diagnostic methods.
 XX
 PS Disclosure; Page 34; 47pp; English.
 XX
 CC The present invention relates to Bordetella bronchiseptica pertactin

Db	143	VAGEQAQASIADSTLQG-----AGGVRVERGANVTVQRSTIVDGGHLIGTLQPLQPEDLPP	198
QY	404	-----PQSGSGPASVDMQGSITT-----TGNRAAGIALTHGS-ARLEGVA	443
Db	199	SRVVLGDTSVTAVPASGA-PAAVFVFGANELTVDGGHITGGRAAGVAAMDGAIVHLQORAT	257
QY	444	VR---AEGSGS-----SAAQLA-----	457
Db	258	IRRGDAPAGGAVPGGAVPGGFGPLLDGWYGVDSVSTVDLAQSIIVEAPQLGAAIR	317
QY	458	---NGTLVVSAGSLASAQSGAISVTDTPLKLMPGALASSTVSVRLTDGATAQGGNGVFLQ	514
Db	318	AGRGARVTVSGGSLSAPHGNVIETGGGARFPFPPA---SPLSITLQAGARAQG--RALLY	372
QY	515	QHSTIPVAVALESGALARGDIVADGNKPLDAG----ISLSVASGAAWHGATQVLQSATLG	570
Db	373	RVLPEPVKLTLAGGAQGGQDIVATELPIPGASSGPLDVALASQARWTGATRAVDSLSI-	431
QY	571	KGGTWVNVNADSRVQDMSMRG-GRVEFQAPAPEASYKTLTLQTLTDGNGVFLNTNVAAGQN	629
Db	432	DNATWVMTDNSV GALRLASDGSVDFQQPAEAGRFKVL MVDTLAGSGLFRMNVFADLGLS	491
QY	630	DQLRVTGRADGQHRVLRNAGGEADSRGARLGLVHTQGGNATFRLANVGKAVDLGTWRY	689
Db	492	DKLVVMRDASGQHRLWVRNSGSEPAS-GNTMLLVQTPRGSAATFTLANKDGKVDIGTYRY	550
QY	690	SLAEDPKTHVWSL-----QR-----	704
Db	551	RLAANGNQ-WSLVGAKAPPAPKPAPQPGPQPGPQPPQPPQPPQPPQPPQPPQPEAPA	609
QY	705	----AGQALSGAANAANAADL----SSIALAESNALDKRLGELRLRADAGGPWARTFSE	757
Db	610	QPPAGRELSAAAANAAVNTGGVGLASTLWYAESNALSKRLGELRLNPDAGGAWGRGFAQR	669

QY	758	QQISNRHARAYDQTVSGLEIGLDRGWSASGGRWYAGLLGYTYADRTYPGDGGKVKGLH	817
		: : : : : : : :	
Db	670	QQLDNRAGRFRDQKVAGFELGADHAVAVAGGRWHLGGLAGYTRGDRGFTGDGGGHTDSVH	729
QY	818	VGGYAAVVGDDGYLDTVLRGLGRYDQQYNIAGTDGGRVTADYRTSGAAWSLEGRRFELP	877
		: : : : : :	
Db	730	VGGYATYIANSGFYLDATLRASRLNDFKVAGSDGYAVKGKYRTHGVGVSLAAGRFAHA	789
QY	878	NDWFAEPQAEVMLWRTSGKRYRASNGLRVKVDANTATLGRGLRFGRRRIALAGGNIVQPY	937
		: : :: : : : : :	
Db	790	DGWFLEPQAEI AVFRVGGAYRAANGLRVRDEGGSSVLGRIGLEVKGRIELAGGRQVQPY	849
QY	938	ARLGTQEFKSTGDRVRTNGIGHAGAGRHGRVELGAGVDAALGKGHNLYASYEYAAADRIN	997
		: : : : : ::	
Db	850	IKASVLQEEFDGAGTVRTNGIAHRTELRCGTRAEGLGMAAALGRGHSLYASYEYSGPKLA	909
QY	998	IPWSFHAGYRYSF	1010
		: : :	
Db	910	MPWTFHAGYRYSW	922

RESULT 12

AAR26503

ID AAR26503 standard; protein; 911 AA.

XX

AC AAR26503;

XX

DT 27-AUG-2003 (revised)

DT 25-MAR-2003 (revised)

DT 12-MAR-1993 (first entry)

XX

DE prn proteins.

vv

XX B. bronchiseptica; P.68; outer membrane protein; piglet; probe;
 KW atrophic rhinitis; alternative cleavage.
 KW
 XX
 OS Bordetella bronchiseptica.
 XX
 FH Key Location/Qualifiers
 FT Protein 35. .632
 FT /label= P.68
 FT Peptide 260. .262
 FT /label= RGD_tripeptide
 FT Region 266. .279
 FT /label= Repeat_region
 FT Region 570. .589
 FT /label= Repeat_region
 FT Peptide 701. .703
 FT /label= RGD_tripeptide
 XX
 PN W09217587-A1.
 XX
 PD 15-OCT-1992.
 XX
 PF 27-MAR-1992; 92WO-GB000561.
 XX
 PR 27-MAR-1991; 91GB-00006568.
 XX
 PA (WELL) WELLCOME FOUND LTD.
 XX
 PI Charles IG;
 XX
 DR WPI; 1992-366258/44.
 DR N-PSDB; AAQ34566.
 XX
 DT DNA encoding a Bordetella bronchiseptica protein used for obtaining

PT DNA encoding a Bordetella bronchiseptica protein - used for obtaining
PT vaccines for preventing respiratory diseases, partic. atrophic rhinitis
PT in pigs.

PS Claim 1; Fig 1; 28pp; English.

The sequence given is the P.94 antigen from *B. bronchiseptica*. The P.68 antigen is formed by alternative cleavage of this protein. P.68 is an outer membrane protein with a molecular weight of 68 kD which is associated with protection of piglets against atrophic rhinitis. The DNA sequence encoding these proteins was derived by standard recombinant DNA techniques using P.68 probes to isolate the entire P.94 sequence. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 27-AUG-2003 to correct OS field.)

Sequence 911 AA;

Query Match	24.6%;	Score 1274.5;	DB 2;	Length 911;
Best Local Similarity	36.1%;	Pred. No. 4.1e-67;		
Matches 326;	Conservative 119;	Mismatches 302;	Indels 155;	Gaps 23;

QY 247 GAPLAAHPP¹LD²RVA³AVHAGQ-----DGKVTLLREVALRAHGPQATGVYAYMPGS 294

DB 27 GAAPAA¹YADWN²NO³SI⁴IKAGEROHGIHIKOSD⁵GAGV⁶RTATGTTIKVSGROAOGVLLNPAA 86

QY	295	EITLQGGTVSVQ	---	DDGAGVVAGAGLLDALPPGGTVRLDGT	TVS	--	TDGANTD	--	AVL	347
		:	:	:				:	:	:
Db	87	ELRFONGSVTSSGOLFDEGVR	RFLGTVTVKA	----	GKLVADHATLANVSDTR	DDDGIALY	142			

QY
348 VRGDAARAEVNTVLRTAKSLAAGVSAQHGGRVTLRQTRITAGAGAEGISVLGFE---- 403

D6
143 VAGEOAOASIA DSTLOG---AGGVRVERGANVTVORSTIADGGLHIGTLOP LOPEDLP 198

9. DOCUMENTATION

10. REFERENCES

QY	404	-----PQSGGPFASVDMQGGSITT-----IGNRAAGIALTHGS-ARLEGVA	444
		: : : : :	
Db	199	SRVVLGDTSVTAVPASGA-PAAVSVFGANELTVDGGHITGGRAAGVAAMDGAIVHLQRAT	257
QY	444	VR---AEGSGS-----SAAQLA-----NG	459
		: :	
Db	258	IRRGDAPAGGAVPGGFGPLLDGWYGVDVSDSTVDLAQSIVEAPQLGAAIRARGA	317
QY	460	TLVVSAGSLASAQSGAISVTDTPLKLMPGALASSTVSVRLTDGATAQQGNGVFLQQHSTI	519
		: :: : : : :	
Db	318	RVTVSGGSLAPHGNVIETGGARRFPFPPA---SPLSITLQAGARAQG--RALLYRVLP	372
QY	520	PVAVALESGALARGDIVADGNKPDLDA-----ISLSVASGAAWHGATQVLQSATLGKGGTW	575
		: : : : : : : :	
Db	373	PVKLTLAGGAQGGDIVATELPPIPGASSGPLDVALASQARWTGATRAVDLSLSI-DNATW	431
QY	576	VVNADSRVQDMSMRG-GRVEFQAPEASEYKTLTLQTLDGNGVFVLNTNVAAQONDQLRV	634
		: : : : : : : : :	
Db	432	VMTDNSVVGALRLASDGSVDFQQPAEAGRFKCLMVDTLAGSGLFRMNVFADLGLSDKLVV	491
QY	635	TGRADGQHRVLVRNAGGEADSRGARLGLVHTQGQGNATFRLANVGKAVDLGTWRYSLAED	694
		: : : : : :	
Db	492	MRDASGQHRLLRVNSGSEPAS-GNTMLLVQTPRGSAATFTLANKDGVDIGTYRYRLAAN	550
QY	695	PKTHVWSL-----QR-----AGQALS	711
Db	551	GNGQ-WSLVGAKAPPAPKPAPQPQGPQPQPQPQPQPQPQPQPEAPAPQPPAGRELSA	609
QY	712	AANAAVNAADL---SSIALAESNALDKRLGELRLRADAGGPWARTFSERQQISNRHARAY	768
		: :: : : :	
Db	610	AANAAVNTGGVGLASTLWYAESNALSKRLGELRLNPDAGGAWGRGFAQRQQLDNRAGRRF	669
QY	769	DQTVSGLEIGLDRGWSASGGRWYAGLLGYTYADRTYPGDGGGKVKLHVGGYAAAYVGDG	828

XX WO200277183-A2.

PN

XX

PD 03-OCT-2002.

XX

PF 21-MAR-2002; 2002WO-US009107.

XX

PR 21-MAR-2001; 2001US-00815242.

PR 06-SEP-2001; 2001US-00948993.

PR 25-OCT-2001; 2001US-0342923P.

PR 08-FEB-2002; 2002US-00072851.

PR 06-MAR-2002; 2002US-0362699P.

XX

PA (ELIT-) ELITRA PHARM INC.

XX

PI Wang L, Zamudio C, Malone C, Haselbeck R, Ohlsen KL, Zyskind JW;

PI Wall D, Trawick JD, Carr GJ, Yamamoto R, Forsyth RA, Xu HH;

XX

DR WPI; 2003-029926/02.

DR N-PSDB; ACA26958.

XX

PT New antisense nucleic acids, useful for identifying proteins or screening

PT for homologous nucleic acids required for cellular proliferation to

PT isolate candidate molecules for rational drug discovery programs.

XX

PS Claim 25; SEQ ID NO 51012; 1766pp; English.

XX

CC The invention relates to an isolated nucleic acid comprising any one of

CC the 6213 antisense sequences given in the specification where expression

CC of the nucleic acid inhibits proliferation of a cell. Also included are:

CC (1) a vector comprising a promoter operably linked to the nucleic acid

CC encoding a polypeptide whose expression is inhibited by the antisense

CC nucleic acid; (2) a host cell containing the vector; (3) an isolated

CC polypeptide or its fragment whose expression is inhibited by the

Db	2	AGEQAQAS	IADSTLQ	-AGGVQIER	GANTVQ	RS	AI	VDGGLH	GALQSLQ	PEDLP	-----	55
QY	252	AHPPLDR	VAAVHAG	QDGKVT	LR	---	VALRAHG	-PQATG	VYAYM	PGSEIT	LQGGT	VS
Db	56	-----	-----	-----	-----	-----	PSRV	VL	RD	TN	TA	VP
QY	308	DDGAGV	VAGAGL	LDALPP	GGTV	RLDGT	TV	ST	DGANT	DA	VL	VR
Db	96	GRAAGV	AA-----	MQGAV	VHLQ	RATIR	-----	RGDA	-----	-----	-----	121
QY	368	LAAGV	SAQHGR	VT	LRQ	TR	IE	TAG	AGAE	IS	VL	GF
Db	122	-PAG	-GAV	PGGAV	-----	PGGAV	PG	-----	GF	GP	VL	DG
QY	423	TGNRAA	GI	AL	THG	SAR	LEG	VAV	RAE	SG	SSAA	Q
Db	165	-----	LAQ	SIVE	AP	EL	GAA	IRV	-GRGA	-----	RVT	VS
QY	483	LKLMPG	ALAS	ST	VS	VR	LT	DG	ATAQ	GG	NG	V
Db	208	RRFAPQ	---A	PL	SIT	LQ	AG	HA	Q	G	---K	ALL
QY	538	-DGNK	--P	L	DAG	I	S	L	S	V	AS	GA
Db	263	IPG	SIG	PLD	---V	ALAS	Q	AR	WT	G	AT	RA
QY	594	EFQAP	AP	EA	SY	K	T	L	T	L	Q	T
Db	318	DFQQ	PAE	AG	R	F	K	V	L	T	V	N
QY	654	DSRGAR	LGLV	HT	Q	G	Q	N	A	T	F	R

DT 15-JUN-2007 (revised)
 DT 30-JUN-2005 (first entry)
 XX
 DE BASB232 polypeptide encoded by Orf22.
 XX
 KW BASB232; vaccine; bacterial infection; bordetella pertussis infection;
 KW antibacterial; BOND_PC; putative autotransporter;
 KW putative autotransporter [Bordetella pertussis]; BapC protein;
 KW BapC protein [Bordetella pertussis Tohama I]; G05524; G07155.
 XX
 OS Bordetella pertussis.
 XX
 PN W02005032584-A2.
 XX
 PD 14-APR-2005.
 XX
 PF 01-OCT-2004; 2004WO-EP011082.
 XX
 PR 02-OCT-2003; 2003GB-00023112.
 PR 02-OCT-2003; 2003GB-00023113.
 XX
 PA (GLAX) GLAXOSMITHKLINE BIOLOGICALS SA.
 XX
 PI Castado C, Denoel P, Godfroid F, Poolman J;
 XX
 DR WPI; 2005-296056/30.
 DR N-PSDB; ADZ46889.
 DR PC:NCBI; gi3411270.
 XX
 PT Immunogenic composition, comprises polypeptide of Bordetella pertussis or
 PT mixture of different B.pertussis, antigens, useful in Bordetella disease
 PT treatments.
 XX
 PG

Qy	436	SARLEGVAVRAEGSGSSAAQLA---	NGTLVVSAGSLASAQSGAISVTDTP-----	482
			: :	
Db	126	RASLRNTDVHGE-----	VAAIALGFNGEANI SGGSL-SVEDGAVLTTLTPDAVEYYDYA	179
Qy	483	--LKLMPGALASSTVSVRLTDGATAQGGNGVFLQ	QHSTIPVAVALESGALARGDIV----	536
		:: :	: :	
Db	180	LSMEHLPADAPLTPVRVTLSDGARASG--	ETLIAHGGLPMTLRLSSGVDARGDIVTLPP	237
Qy	537	-----	ADGNKPL-----DAGI	547
			: :	
Db	238	SAPDSAEQPD AEPEPD AELEPD AAAQSDAKANARVMAQ	VDGGE PVAVPI PAPSHPD API	297
Qy	548	SLSVASGAAWHGATQVLQSATLKG	GTWVVNADSRVQDMSMRGGRVEFQAPA-PEASYKT	606
		: :	: : : : :	
Db	298	DVFIDSGAQWRGMTKTVNALRI-EDGTWTVTGS	TVNSLHLQAGKVAYATPAESDGEFKH	356
Qy	607	LTLQTLDDGNGVFLNTNVAAGQNDQLRV	TGRADGQHRVLRNAGGEADSRGARLGLVHTQ	666
		: : : :	: :	
Db	357	LRVKTLSGSGLFEMNASADLSGD	LLVVSDEASGQHKVLRGAGTEPTGVES-LTLVELP	415
Qy	667	GQGNATFRLANVGKAVDLGTWRYSLAEDPK	THVWSLQ RAGQALSGAANA AVNAADL---	723
			: :	
Db	416	EGSQTKFTLANRGGVVDAGAFRYRLT--	PDNGVWGLERTSQ-LSAVANAALNTGGVGAAS	472
Qy	724	SIALAESNALDKRLGELRLRADAGGPWARTF	SERQQISNRHARAYDQTVSGLEIGLDRGW	783
			: : :	
Db	473	SIWYAEGNALSKRLGELRLDPGAGGF	WGRTFAQKQQLDNKAGRFRDQKVYGFELGADHAI	532
Qy	784	SASGGRWYAGLLGYTYADRTYPGDGGGKV	KGLHVGGYAAAYVGDGGYYLDTVLRLGRYDQ	843
		: :	: : :	
Db	533	AGQQGRWHVGGLLGYTRARRSFIDDGAGHT	DSAHIGAYAAAYVADNNGFYFDSTLRASRFEN	592
Qy	844	QVNTAGTDCQGVTAQVDTGCAAMST	EGQDDDEETDADNDEFAEDCAEYVAT	803

Qy	844	QYNIAGTDGGRVTADYRTSGAAWSLEGGRRFELPNDWFAEPQAEVMLWRTSGKRYRASNG	903
		: : : : : : : : :	
Db	593	DFTVTATDAVSVRGKYRANGVGATLEAGKRFTLHDGWFEVPEPQSEVSLFHASGGTYRAANN	652
Qy	904	LRVKVDANTATLGRGLRFGRRRIALAGGNIVQPYARLGTQEFKSTGDVRTNGIGHAGAG	963
		: : : : :	
Db	653	LSVKDEGGTSAVLRGLAAGRRIIDLKDRVIQPYATLSWLQEFFKGVTTVRTNGYGLRTDL	712
Qy	964	RHGRVELGAGVDAALGKGHNLYASYEYAAGDRINIPWSFHAGYRYSF	1010
		: : : : :	
Db	713	SGGRAELALGLAAALGRGHQLYTSYEYAKGNKLTLPWTFHLGYRYTW	759

RESULT 15
 ADZ46892
 ID ADZ46892 standard; protein; 515 AA.
 XX
 AC ADZ46892;
 XX
 DT 30-JUN-2005 (first entry)
 XX
 DE BASB232 polypeptide encoded by Orf23.
 XX
 KW BASB232; vaccine; bacterial infection; bordetella pertussis infection;
 KW antibacterial.
 XX
 OS Bordetella pertussis.
 XX
 PN W02005032584-A2.
 XX
 PD 14-APR-2005.
 XX
 PF 01-OCT-2004; 2004WO-EP011082.
 vv

XX 02-OCT-2003; 2003GB-00023112.
PR 02-OCT-2003; 2003GB-00023113.
XX
PA (GLAX) GLAXOSMITHKLINE BIOLOGICALS SA.
XX
PI Castado C, Denoel P, Godfroid F, Poolman J;
XX
DR WPI; 2005-296056/30.
DR N-PSDB; ADZ46891.
XX
PT Immunogenic composition, comprises polypeptide of Bordetella pertussis or
PT mixture of different B.pertussis, antigens, useful in Bordetella disease
PT treatments.
XX
PS Claim 3; SEQ ID NO 46; 172pp; English.
XX
CC The invention relates to BASB232 polypeptides (SEQ Group 2), and the
CC polynucleotide sequences (SEQ Group 1) encoding them. The invention also
CC relates to an immunogenic composition, comprising a B. pertussis BASB232
CC polypeptide or a mixture of 2-9 or 10 different B. pertussis antigens,
CC chosen from Bordetella autotransporter protein, Bordetella iron
CC acquisition protein, Bordetella lipoprotein, Bordetella adhesin and
CC Bordetella toxin/invasin, and an excipient. Also described is a vaccine
CC comprising the above immunogenic composition. The immunogenic composition
CC is useful in the preparation of a medicament for use in the treatment or
CC prevention of Bordetella disease such as whooping cough. The immunogenic
CC composition and vaccine are useful for treating or preventing Bordetella
CC infections such as B. pertussis, B. parapertussis or B. bronchiseptica
CC infections, by administering the vaccine to a host. This sequence
CC represents a BASB232 polypeptide of the invention.
XX
SQ Sequence 515 AA;

Query Match	21.7%;	Score 1122.5;	DB 10;	Length 515;
Best Local Similarity	45.7%;	Pred. No. 2.3e-58;		
Matches 237;	Conservative 65;	Mismatches 192;	Indels 25;	Gaps 7;

QY	513	LQQHSTIPVAVALESGALARGDIV-----ADG-NKPLDAG-----ISLSVASG	554
Db	1	LRQTPVPVRLVLRGAAVAQGDVVRAPETAPEKDGFGTFVPRPGLRVGLDQAPLELDVADG	60
QY	555	AAWHGATQVLQSATLGKGGTWVNVNADSRVQDMSMRGGRVEFQAPAPEASYKTLTLQTLTG	614
Db	61	AQWHGATQSLDRALGAGGQWRMSAASSVGELSMEPGAAVVFGDAAGPGFQTLTVRTL	120
QY	615	NGVFVLNTNVAAGQNDQLRVTGRADGQHRVLVRNAGGEADSRGARLGLVHTQGQGNATFR	674
Db	121	AGSFEMRADAALAHADQLVVTDAQEGRHRVWLRAPAGAEPK-AQAVLVRAPADGKASFE	179
QY	675	LANVGKAVDLGTWRYSLAEDPKTHVWSLQRAQALSGAANAAVNAADLSSIA---LAESN	731
Db	180	LDGSDGRADFGTYRYGLAQQP-GGAWGLVRTG--YSSTAAAAALDTGGLGAVQGLWYAESN	236
QY	732	ALDKRLGELRLRADAGGPWARTFSERQQISNRHARAYDQTVSGLEIGLDRGWSASGGRWY	791
Db	237	ALGKRMGELRLNPDAGGAWGRAFSQRQRI SPRAGRHQQQVSGIELGADRAWPVAGGRWH	296
QY	792	AGLLGYTYADRTYPGDGGGKVKGLHVGGYAAVVGDDGGYYLDTVLRRLGRYDQQYNIAGTD	851
Db	297	AGWLLGYTRASRGFSGQKGHTDSVHVGGYATYIGANGVYADATLRASRFENSFDAPGWA	356
QY	852	GGRVTADYRTSGAAWSLEGRRRFFELPNDWFAEPQAEVMLWRTSGKRYRASNGLRVKVDAN	911
Db	357	GRTVSGSYRANGVGTLEAGRRLALDRHWFVEPQAEIAFWFRAGGGTYTASNGLRIEDDGG	416

Qy	912	TATLGRGLRFGRRIALAGGNIVQPYARLGWTQEFKSTGDDVRTNGIGHAGAGRHHGRVELG	971
		: : : :	
Db	417	TSLQARVGAQAQRFRDLRGGAVVQPYAQLSWVQELKGVSTVRTNGIAHRTDLGAGRVELG	476
Qy	972	AGVDAALGKGHNLYASYEYAAGDRINIPWSFHAGYRYSF	1010
		: :	
Db	477	LGVAAALGKGHNLYASYEYAHGPRLSLPWTVQLGYRYAW	515

Search completed: May 30, 2008, 10:20:02
Job time : 101.58 secs